CLAIMS

1. A method in a computer system for preventing atypical clinical events related to information identified by DNA testing a person, comprising the steps of:

receiving clinical agent information, the clinical agent information including an identifier of the agent;

determining if a gene is associated with the clinical agent information, and if so, obtaining a genetic test result value for the associated gene of the person;

comparing the genetic test result value to a list of polymorphism values associated with an atypical clinical event, and

determining whether the genetic test result value correlates to a polymorphism value on the list, and if so, outputting information about the atypical clinical event associated with the polymorphism value.

2. The method of claim 1, wherein the clinical agent information includes a dosage of the identified clinical agent.

3. The method of claim 1, wherein the clinical agent information is received over a communication network from a remote computer.

4. The method of claim 1, wherein the step of determining if a gene is associated with the clinical agent information includes querying a first data structure containing agent-gene associations

and determining if a gene has one or more variants associated with an atypical response to the identified clinical agent.

5. The method of claim 4, wherein a plurality of genes have one or more variants associated with an atypical response to the identified clinical agent.

6. The method of claim 4, further comprising the step of initiating a clinical action if a gene has at least one variant associated with an atypical response to the identified clinical agent.

7. The method of claim 6, wherein the clinical action is providing a warning that the identified agent should not be administered.

8. The method of claim 6, wherein the clinical action is ordering a genetic test for the person.

9. The method of claim 6, wherein the clinical action is canceling another clinical action.

10. The method of claim 1, wherein the genetic test result value is obtained from an electronic medical record of the person stored within a comprehensive healthcare system.

11. The method of claim 1, wherein the step of comparing includes querying a second data structure containing polymorphism-atypical result associations.

12. The method of claim 1, wherein the second data structure includes information about risks associated with the atypical clinical event.

13. The method of claim 12, wherein the step of outputting information includes accessing the risk information in the second data structure.

14. The method of claim 1, wherein the step of determining if a gene is associated with the clinical agent information includes querying a first data structure containing agent-gene associations and wherein the step of comparing includes querying a second data structure containing polymorphism-atypical result associations, wherein the first data structure and second data structure are integrated as a single data structure.

15. The method of claim 1, wherein the output information includes a message containing a warning of the patient specific risk.

16. The method of claim 1, wherein the clinical agent information includes a dosage of the identified clinical agent, and wherein the second data structure includes information about risks associated with various dosages of the identified clinical agent.

17. The method of claim 1, further comprising the step of outputting information that the person is not at risk if the genetic test result value does not correlate to a polymorphism value.

18. A method in a computer system for preventing atypical clinical events related to information identified by DNA testing a person, comprising the steps of:

receiving clinical agent information, the clinical agent information including an identifier of the agent;

determining if a gene is associated with the clinical agent information, and

inquiring if the person has a genetic test result value for the gene, and if not, generating an output including information regarding the likelihood that the person has a gene variant indicative of an atypical event.

19. The method of claim 18, wherein the step of generating the output includes determining if hereditary information for the person is available, and if so, determining if the hereditary information indicates a variation from the risks of the presence of a polymorphism in the general population.

20. The method of claim 19, wherein the hereditary information includes information selected from one of the groups consisting of gender, race, ethnicity and geographic distribution.

21. The method of claim 19, further comprising the step of obtaining hereditary information relating to the person.

22. The method of claim 21, wherein the hereditary information is obtained from an electronic medical record of the person stored within a comprehensive healthcare system.

23. The method of claim 19, further comprising the step of initiating a clinical action if a test result value is not available for the person and the information regarding the risks indicates a significant risk that the person carries a gene variant associated with an atypical event.

24. The method of claim 23, wherein the clinical action is ordering a genetic test.

25. A method in a computer system for processing hereditary data related to the use of clinical agents by a person, comprising the steps of:

receiving a genetic test result value for the person;

determining if the genetic test result value is a polymorphism value associated with an atypical clinical event, and if so, accessing a list of risk-associated agents; and

outputting an interpretation of the genetic test result value and the list of risk-associated agents.

26. The method of claim 25, further comprising the step of determining if the person has been exposed to an agent on the list of risk-associated agents.

27. The method of claim 26, wherein the step of determining if the person has been exposed includes accessing an electronic medical record of the person.

28. The method of claim 27, wherein the electronic medical record is stored within a comprehensive healthcare system.

29. The method of claim 26, further comprising the step of initiating a clinical action if the person has been exposed to an agent on the list of risk-associated agents.

30. The method of claim 29, wherein the clinical action is generating an electronic message to inform a clinician to no longer administer the agent.

31. A computer system for preventing atypical clinical events related to information identified by DNA testing a person, comprising:

a receiving component that receives clinical agent information, the clinical agent information including an identifier of the agent;

a first determining component that determines if a gene is associated with the clinical agent information;

an obtaining component for obtaining a genetic test result value for the associated gene of the person;

a comparing component for comparing the genetic test result value to a list of polymorphism values associated with an atypical clinical event;

a second determining component that determines whether the genetic test result value correlates to a polymorphism value on the list, and

an outputting component that outputs information about the atypical clinical event associated with the polymorphism value.

32. The computer system of claim 31, wherein the clinical agent information includes a dosage of the identified clinical agent.

33. The computer system of claim 31, wherein the clinical agent information is received over a communication network from a remote computer.

34. The computer system of claim 31, wherein the first determining component includes a querying component that queries a first data structure containing agent-gene associations, and wherein the system further comprises a third determining component that determines if a gene has one or more variants associated with an atypical response to the identified clinical agent.

35. The computer system of claim 34, wherein a plurality of genes have one or more variants associated with an atypical response to the identified clinical agent.

36. The computer system of claim 34, further comprising an initiating component that initiates a clinical action if a gene has at least one variant associated with an atypical response to the identified clinical agent.

37. The computer system of claim 36, wherein the clinical action is providing a warning that the identified agent should not be administered.

38. The computer system of claim 36, wherein the clinical action is ordering a genetic test for the person.

39. The computer system of claim 36, wherein the clinical action is canceling another clinical action.

40. The computer system of claim 31, wherein the genetic test result value is obtained from an electronic medical record of the person stored within a comprehensive healthcare system.

41. The computer system of claim 31, wherein the comparing component includes a querying component that queries a second data structure containing polymorphism-atypical result associations.

42. The computer system of claim 31, wherein the second data structure includes information about risks associated with the atypical clinical event.

43. The computer system of claim 42, wherein the outputting component includes an accessing component that accesses the risk information in the second data structure.

44. The computer system of claim 31, wherein the first determining component includes a querying component that queries a first data structure containing agent-gene associations and wherein the comparing component includes a second querying component that queries the second

data structure containing polymorphism-atypical result associations, wherein the first data structure and second data structure are integrated as a single data structure.

45. The computer system of claim 31, wherein the output information includes a message containing a warning of the patient specific risk.

46. The computer system of claim 31, wherein the clinical agent information includes a dosage of the identified clinical agent, and wherein the second data structure includes information about risks associated with various dosages of the identified clinical agent.

47. The computer system of claim 31, further comprising a second outputting component that outputs information that the person is not at risk if the genetic test result value does not correlate to a polymorphism value.

48. A computer system for preventing atypical clinical events related to information identified by DNA testing a person, comprising:

a receiving component that receives clinical agent information, the clinical agent information including an identifier of the agent;

a determining component that determines if a gene is associated with the clinical agent information;

an inquiring component that inquires if the person has a genetic test result value for the associated gene, and

a generating component that generates an output including information regarding the likelihood that the person has a gene variant indicative of an atypical event.

49. The computer system of claim 48, wherein the generating component includes a first determining component and a second determining component, wherein the first determining component determines if hereditary information for the person is available and wherein the second determining component determines if the hereditary information indicates a variation from the risks of the presence of a polymorphism in the general population if the first determining component determines that no hereditary information is available.

50. The computer system of claim 49, wherein the hereditary information includes information selected from one of the groups consisting of gender, race, ethnicity and geographic distribution.

51. The computer system of claim 49, further comprising an obtaining component that obtains hereditary information relating to the person.

52. The computer system of claim 51, wherein the hereditary information is obtained from an electronic medical record of the person stored within a comprehensive healthcare system.

53. The computer system of claim 49, further comprising an initiating component that initiates a clinical action if a test result value is not available for the person and the information regarding the

risks indicates a significant risk that the person carries a gene variant associated with an atypical event.

54. The computer system of claim 53, wherein the clinical action is ordering a genetic test.

55. A computer system for processing hereditary data related to the use of clinical agents by a person, comprising the steps of:

a receiving component that receives a genetic test result value for the person;

a first determining component that determines if the genetic test result value is a polymorphism value associated with an atypical clinical event;

an accessing component that accesses a list of risk-associated agents if the determining component determines that a genetic test result value is polymorphism value associated with an atypical event; and

an outputting component that outputs an interpretation of the genetic test result value and the list of risk-associated agents.

56. The computer system of claim 55, further comprising a second determining that determines if the person has been exposed to an agent on the list of risk-associated agents.

57. The computer system of claim 56, wherein the second determining component determines if the person has been exposed includes an accessing component that accesses an electronic medical record of the person.

58. The computer system of claim 57, wherein the electronic medical record is stored within a comprehensive healthcare system.

59. The computer system of claim 56, further comprising an initiating component that initiates a clinical action if the person has been exposed to an agent on the list of risk-associated agents.

60. The computer system of claim 59, wherein the clinical action is generating an electronic message to inform a clinician to no longer administer the agent.

61. A computer-readable medium containing instructions for controlling a computer system for preventing atypical clinical events related to information identified by DNA testing a person, by:

receiving clinical agent information, the clinical agent information including an identifier of the agent;

determining if a gene is associated with the clinical agent information, and if so, obtaining a genetic test result value for the associated gene of the person;

comparing the genetic test result value to a list of polymorphism values associated with an atypical clinical event, and

determining whether the genetic test result value correlates to a polymorphism value on the list, and if so, outputting information about the atypical clinical event associated with the polymorphism value.

62. The computer-readable medium of claim 61, wherein the clinical agent information includes a dosage of the identified clinical agent.

63. The computer-readable medium of claim 61, wherein the clinical agent information is received over a communication network from a remote computer.

64. The computer-readable medium of claim 61, wherein the step of determining if a gene is associated with the clinical agent information includes querying a first data structure containing agent-gene associations and determining if a gene has one or more variants associated with an atypical response to the identified clinical agent.

65. The computer-readable medium of claim 64, wherein a plurality of genes have one or more variants associated with an atypical response to the identified clinical agent.

66. The computer-readable medium of claim 64, further comprising the step of initiating a clinical action if a gene has at least one variant associated with an atypical response to the identified clinical agent information.

67. The computer-readable medium of claim 66, wherein the clinical action is providing a warning that the identified agent should not be administered.

68. The computer-readable medium of claim 66, wherein the clinical action is ordering a genetic test for the person.

69. The computer-readable medium of claim 66, wherein the clinical action is canceling another clinical action.

70. The computer-readable medium of claim 61, wherein the genetic test result value is obtained from an electronic medical record of the person stored within a comprehensive healthcare system.

71. The computer-readable medium of claim 61, wherein the step of comparing includes querying a second data structure containing polymorphism-atypical result associations.

72. The computer-readable medium of claim 61, wherein the second data structure includes information about risks associated with the atypical clinical event.

73. The computer-readable medium of claim 72, wherein the step of outputting information includes accessing the risk information in the second data structure.

74. The computer-readable medium of claim 61, wherein the step of determining if a gene is associated with the clinical agent information includes querying a first data structure containing agent-gene associations and wherein the step of comparing includes querying a second data structure

containing polymorphism-atypical result associations, wherein the first data structure and second data structure are integrated as a single data structure.

75. The computer-readable medium of claim 61, wherein the output information includes a message containing a warning of the patient specific risk.

76. The computer-readable medium of claim 61, wherein the clinical agent information includes a dosage of the identified clinical agent, and wherein the second data structure includes information about risks associated with various dosages of the identified clinical agent.

77. The computer-readable medium of claim 61, further comprising the step of outputting information that the person is not at risk if the genetic test result value does not correlate to a polymorphism value.

78. A computer-readable medium containing instructions for controlling a computer system for preventing atypical clinical events related to information identified by DNA testing a person, comprising the steps of:

receiving clinical agent information, the clinical agent information including an identifier of the agent;

determining if a gene is associated with the clinical agent information, and

inquiring if the person has a genetic test result value for the gene, and if not, generating an output including information regarding the likelihood that the person has a gene variant indicative of an atypical event.

79. The computer-readable medium of claim 78, wherein the step of generating the output includes determining if hereditary information for the person is available, and if so, determining if the hereditary information indicates a variation from the risks of the presence of a polymorphism in the general population.

80. The computer-readable medium of claim 79, wherein the hereditary information includes information selected from one of the groups consisting of gender, race, ethnicity and geographic distribution.

81. The computer-readable medium of claim 79, further comprising the step of obtaining hereditary information relating to the person.

82. The computer-readable medium of claim 81, wherein the hereditary information is obtained from an electronic medical record of the person stored within a comprehensive healthcare system.

83. The computer-readable medium of claim 79, further comprising the step of initiating a clinical action if a test result value is not available for the person and the information regarding the

risks indicates a significant risk that the person carries a gene variant associated with an atypical event.

84. The computer-readable medium of claim 83, wherein the clinical action is ordering a genetic test.

85. A computer-readable medium containing instructions for processing hereditary data related to the use of clinical agents by a person, comprising the steps of:

receiving a genetic test result value for the person;

determining if the genetic test result value is a polymorphism value associated with an atypical clinical event, and if so, accessing a list of risk-associated agents; and

outputting an interpretation of the genetic test result value and the list of risk-associated agents.

86. The computer-readable medium of claim 85, further comprising the step of determining if the person has been exposed to an agent on the list of risk-associated agents.

87. The computer-readable medium of claim 86, wherein the step of determining if the person has been exposed includes accessing an electronic medical record of the person.

88. The computer-readable medium of claim 87, wherein the electronic medical record is stored within a comprehensive healthcare system.

89. The computer-readable medium of claim 86, further comprising the step of initiating a clinical action if the person has been exposed to an agent on the list of risk-associated agents.

90. The computer-readable medium of claim 89, wherein the clinical action is generating an electronic message to inform a clinician to no longer administer the agent.